ENCLOSURE 1

ASME SECTION XI

FIRST 10 – YEAR INTERVAL

ISI PROGRAM – REVISION 3

FOR PALO VERDE NUCLEAR GENERATING STATION

UNIT 3

INSERVICE INSPECTION
PROGRAM SUMMARY MANUAL

PALO VERDE

NUCLEAR GENERATING STATION

UNIT 3

ARIZONA PUBLIC SERVICE COMPANY
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PVNGS
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PREPARED BY: R.L. BROWNING RLB DATE: 8-13-99

PREPARED BY: N/A DATE: N/A

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APPROVAL BY
ENGINEERING
DEPARTMENT LEADER: [signature] 8/25/99 DATE: 8/31/99

COMMERCIAL
SERVICE DATE: 01/08/88

PROGRAM NO: ISI-3
REVISION NO: 3
DATE: 9-15-99

RECORD OF REVISIONS

PAGE NUMBER	REVISION
Cover	3
i	1
ii and iii	3
1-1 and 1-2	1
1-3 and 1-4	3
1-5	2
1-6 and 1-7	1
4-1 and 4-2	0
Table 1-1 page 1 of 2	2
1-1 page 2 of 2	0
1-2 page 1 and 2 of 2	2
1-3 page 1 of 2	1
1-3 page 2 of 2	0
1-4	1
1-5 page 1 of 2	0
1-5 page 2 of 2	1
1-6 page 1 of 3	1
1-6 page 2 and 3 of 3	2
1-7 page 1 of 4	1
1-7 page 2 thru 4 of 4	0
1-8	2
1-9 page 1 thru 3 of 5	2
1-9 page 4 and 5 of 5	0
1-10	2
1-12 page 1 of 2	2
1-12 page 2 of 2	0
1-13	1
1-14	0
1-15	2
1-16	0
1-IWF page 1 of 3	2
1-IWF page 2 and 3 of 3	1
1-RCP	0

5-1 and 5-2		0
Table	2-1 page 1 thru 2 of 3	0
	2-1 page 3 of 3	1
	2-2 page 1 of 2	2
	2-2 page 2 of 2	1
Table	2-3 page 1 of 4	1
	2-3 page 2 and 3 of 4	2
	2-3 page 4 of 4	0
	2-4	0
	2-5 page 1 thru 3 of 4	1
	2-5 page 4 of 4	0
	2-6	1
	2-7	2
	2-IWF page 1,3, and 4 of 6	1
	2-IWF page 2,5, and 6 of 6	2
6-1 and 6-2		0
Table	3-1 page 1 of 2	0
	3-1 page 2 of 2	2
	3-IWF	2
7-1		0
Table	2-AHE page 1 and 3 of 3	0
	2-AHE page 2 of 3	1
8-1		0
Table	2-CFR page 1 and 2 of 6	1
	2-CFR page 3 of 6	2
	2-CFR page 4 thru 6 of 6	1
9-1		0
9-2		3
9-3 thru 9-7		1
9-8, 9-9 and 9-9A		2
9-10		1
9-11 thru 9-22		2
9-23 thru 9-25		3
10-1		0
10-2		1
11-1 thru 11-4		1
Zone Drawings		(see Dwg)

3.3 ACCESSIBILITY

The preservice examinations were performed with examination techniques, both automated and manual, similar to those planned for use during Inservice Inspection. The examination limitations noted during the preservice examinations were documented in requests for relief submitted with the preservice examination program. There have been no additional code limitations noted during the formulation of this program other than those contained in the Request for Relief Section.

All items that are scheduled for examination will be examined to the extent practical. In addition, any code limitations that are noted during the examinations will be documented in the summary reports that are prepared after each outage.

3.4 EXAMINATION TECHNIQUES

The three types of examinations utilized to perform Inservice Inspections, along with the actual nondestructive examination technique, are identified in the legend below:

VT - Visual	VT - 1 (General Condition) VT - 2 (Leakage) VT - 3 (Structural Condition) VT - 4 (Operability)
S - Surface	PT - Liquid Penetrant MT - Magnetic Particle ET - Eddy Current
VOL - Volumetric	UT - Ultrasonic RT - Radiography

All the above nondestructive examination techniques will be performed using specific techniques and procedures that are identified in ASME Section XI, or alternative examinations that are demonstrated to be equivalent or superior to those identified.

3.5 INSPECTION INTERVALS

The Inservice Inspection Program was prepared in accordance with Program B of ASME Section XI. The initial 10 year inspection interval and corresponding inspection periods are defined below:

First Inspection Interval:	1-8-88 to 1-10-98*
Period One :	1-8-88 to 5-10-91
Period Two :	5-11-91 to 9-10-94
Period Three :	9-11-94 to 1-10-98

These dates have been modified to a common interval start date for all three PVNGS units. This is in accordance with NRC letter dated October 21, 1987, from E.A. Licitra, NRC, to E.E. Van Brunt, Jr.,ANPP, "Inservice Inspection Programs Palo Verde, Units 1, 2, and 3" to allow the three units to be under the same ASME Section XI edition and addenda. It should be noted that the intervals/periods may change between units to allow for extended outage durations per IWA-2400 of ASME Section XI. The Unit 3 interval has been increased by 9 months and 23 days due to the extended duration of the first re-fueling outage.

* The first inspection interval has been extended 1 year to 1/10/99 as allowed by IWA-2400(c).

3.6 EXAMINATION CATEGORIES

The examination categories of ASME Section XI were utilized to develop this program for all systems, components, and supports. The Program summary tables contained in Sections 4.0 and 5.0 are organized by examination category for ASME Class 1 and 2 systems, respectively. For each examination category, these tables identify the system, line number, nondestructive examination method, total number of items, required examination amount for each inspection period, and running percentage. For ASME Class 3 systems, the examinations categories are identified in Section 6.0.

3.7 EVALUATION AND REPAIR

The evaluation of all examination results will be performed in accordance with ASME Section XI Articles IWA and IWB-3000. In addition, all applicable repairs and replacements will be performed in accordance with ASME Section XI Articles IWA, IWB, IWC, IWD, and IWF-4000 and 7000. Pressure tests will be performed only on welded repairs or replacements, in accordance with IWA-4000 and 5000. Both the evaluations and repair or replacement will be performed in accordance with the 1980 Edition through and including the Winter 1981 Addenda of ASME Section XI, or later editions and addenda of ASME Section XI reference in 10 CFR 50.All repairs and replacements will be documented in accordance with the Work Control program, and are maintained at Palo Verde for review.

3.8 SYSTEM PRESSURE TESTS

System pressure tests will be performed in accordance with ASME Section XI and as identified in Sections 4.0, 5.0, and 6.0 for ASME Class 1, 2, and 3, respectively. These tables also identify the type of pressure test, test frequency, any applicable requests for relief, and references the appropriate ASME Section XI Article for each of the ASME Code Classes.

3.9 AUGMENTED HIGH ENERGY PIPING

Based on the PVNGS UFSAR, an augmented examination is required for protection against postulated pipe failures. This augmented examination program includes the following high energy piping systems located between the containment penetration and the main steam support structural wall:

Main Steam
Feedwater
Steam Generator Blowdown
Downcomer Feedwater

The summary tables in Section 7.0 identify each system, along with the required examination amounts and frequencies. As shown by this table, a volumetric examination of all longitudinal and circumferential welds is scheduled. These welds will be examined to the maximum extent practical. any limitations to the examination will be included and documented on the examination report prepared in accordance with ASME Section XI.

RELIEF REQUEST
INDEX

NUMBER	DESCRIPTION
1.	Hydraulic and Mechanical Snubbers will be tested in accordance with PVNGS Technical Specifications.
2.	Withdrawn
3.	Insulation will not be removed for visual examinations or welded or mechanical attachments.
4.	Level III Personnel will be recertified by examination every 5 years.
5.	Withdrawn
6.	Withdrawn
7.	Class 2 and 3 Systems Pressure Test (revised)
8.	Withdrawn
9.	Steam Generator Handhole Pressure Test
10.	Main Steam Nozzle Volumetric Examination
11.	Code Case N498-1
12.	Class 1 Pressure Test Boundary
13.	Reactor Vessel Shell and Head Coverage
14.	Misc. Code Limited Examinations
15.	Restricted Access Under Reactor Vessel For VT-2 Examination

ENCLOSURE 2

ASME SECTION XI RELIEF REQUEST NO. 15

TO THE FIRST 10-YEAR INTERVAL

INSERVICE INSPECTION PROGRAM

FOR THE PALO VERDE NUCLEAR GENERATING STATION

UNIT 3

Relief Request No. 15

Restricted Access under the Rx Vessel for VT-2 Exam

Code Class	1
Code Reference	ASME Section XI, Division 1, 1980 Edition, Winter 1981 Addenda, IWB-5210 and Table IWB-2500-1
Examination Category	B-P
Item Numbers	B15.10 and B15.11
Component Description	Reactor Vessel
PVNGS Unit	3

Requirement

IWB-5210 and Table IWB-2500-1 of ASME Section XI, require that the reactor vessel [Category B-P, Items B15.10 and B15.11] be VT-2 examined at a test pressure not less than the nominal operating pressure associated with 100 percent rated reactor power, to identify leakage.

Alternate Testing

PVNGS will conduct VT-2 examinations on all portions of the reactor vessel, which are accessible during Mode 3 without endangering personnel from undue heat or radiation exposure.

However, in lieu of performing VT-2 visual exams in areas that are hazardous to personnel (i.e. under the reactor vessel), PVNGS will monitor for reactor vessel leakage using leak detection methods provided in the design of the plant.

Basis For Relief

Pursuant to 10 CFR 50.55a (g)(5)(iv), relief is requested on the basis that conformance with the code requirement is impractical. Specifically, relief is requested from the requirement to visually inspect the entire reactor vessel while pressurized to the pressure associated with 100 percent rated reactor power based on design limitations which create personnel hazards in certain areas required to be examined.

The requirement to VT-2 examine the reactor vessel is to ensure that the vessel has been reassembled correctly and that no leakage is present. Because the walls of the reactor Vessel are essentially vertical, the code allows the examination to be limited to the lowest elevation where leakage will accumulate [IWA-5242(a)]. In addition the

code requires that the surrounding areas, including floor areas, be inspected for evidence of leakage [IWA-5242(b)].

PVNGS cannot comply with the code requirements to perform this inspection at Mode 3 because of high area temperatures and high radiation areas.

The exams require personnel to access areas where radiation fields are between 2 to 12 Rem/hour.

Accessing the bottom of the reactor vessel to assess accumulated leakage, while the system is depressurized, is physically possible. However, PVNGS is constructed in such a way that reactor vessel leakage which would accumulate at the bottom of the insulation around the vessel or on the floor cannot be distinguished from leakage from other sources such as leakage from the pool seals.

While direct visual examination may detect gross leakage, more sensitive methods of detecting leakage from the reactor vessel are available, as discussed below, which do not endanger plant personnel.

Additional information

Reactor coolant system (RCS) pressure boundary leakage is monitored by the control room staff in several different ways:

1. Monitoring of the space between the double O-ring seal on the reactor vessel closure head.
2. Containment atmosphere particulate radioactivity monitoring.
3. Containment atmosphere gaseous radioactivity monitoring.
4. Containment relative humidity monitoring.
5. Containment sump level rate of change and discharge monitoring.
6. RCS water inventory balance measurements.

Technical Specification 3.4.14, RCS Operation Leakage, allows for only 1 gpm unidentified leakage and no pressure boundary leakage. The first four methods, above, provide continuous monitoring with alarms. Sump levels are monitored every hour and the RCS water inventory balance is performed every three days. If greater than 1 gpm leakage is detected, the leakage must be reduced to within limits within four hours

or be in Mode 5 within 36 hours.

PVNGS believes that the RCS leakage monitoring performed by the control room staff satisfies the requirement for detection of RCS pressure boundary leakage from the reactor vessel. Performing a VT-2 exam on the bottom of the reactor vessel would not provide better information than is possible by other means and does not warrant the risk of injury to plant personnel from extreme heat and high radiation exposure.

Approval

Relief is requested in accordance with 10 CFR 50.55a (g)(5)(iv). This examination is impractical due to extreme temperatures and high radiation in certain areas requiring personnel occupancy in order to complete this exam.

References

1. ASME Section XI, Rules for Inspection and Testing of Components of Light Water Cooled Plants, 1980 Edition, Winter 1981 Addenda.